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EXAMINER

BAYAT, ALI

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,296	Applicant(s) SCHAEDT, JOHANNES GEORG	
	Examiner ALI BAYAT	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/27/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 17 recited "said second and/or third inspection includes inspection of visible and/or invisible features on the printed sheets". The specification should disclose three separate embodiments.

first embodiment to disclose "said second inspection includes inspection of visible features on the printed sheets.

Second embodiment to disclose "said third inspection includes inspection of invisible features on the printed sheets.

Third embodiment to disclose "said second and third inspection includes inspection of visible and invisible features on the printed sheets.

Applicant is advised to select either "or" or "and" in the claim, not both, in order to overcome the rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 16, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 2-15 and 17-21 are also rejected under 35 U.S.C. 112, second paragraph, because they depend from rejected claims 1 and 16 respectively.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Toni et al. (US 7,423,738) in view of JP 61-175552(Kanzaki Paper Co.).

De Toni provides for Inspection machine for printed matter in the form of printed sheets, such as securities, notes, banknotes, passports and other similar document (Fig.5 see cylindrical body 10, col.4 lines 20-26), with a sheet feeder (col.4 lines 24-26, also see calibration device 13 in col.4 lines 43-48) , wherein the machine comprises at least a first sheet inspection unit with an inspection cylinder for transporting a printed sheet during inspection (Fig.5 element 10 col.4

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lines 22-25), an illumination means (Fig.5 see lighting device 3, col.5 lines 4-10) and a camera connected to an analyzing device for taking an image of the printed sheet while it is transported on said inspection cylinder (Fig.5 see camera 5 col.5 lines 4-10).

De Toni does not provide for input transfer cylinder to successively bring the printed sheets to the at least one inspection unit and an output transfer cylinder to take away the printed sheets from the at least one inspection unit, wherein said at least one inspection unit and the transfer cylinders are arranged in such a manner that the printed sheet is transferred directly from one transfer or inspection cylinder to another and that the inspected printed sheet is taken away from said inspection cylinder only once the inspection of the sheet is completed by said at least one inspection unit. However in the same field of endeavor Kanzaki teaches the above limitations (Fig.2 sees first inspection roll 23, a second inspection roll 24 and a third inspection roll 25, in page 8 lines 6-17).

It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing an input transfer cylinder to successively bring the printed sheets to the at least one inspection unit and an output transfer cylinder to take away the printed sheets from the at least one inspection unit, wherein said at least one inspection unit and the transfer cylinders are arranged in such a manner that the printed sheet is transferred directly from one transfer or inspection cylinder to another and that the inspected printed sheet is taken away

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from said inspection cylinder only once the inspection of the sheet is completed by said at least one inspection unit, in order to provide a high speed operation by employing such a sheet feeding mechanism . See page 7 lines 24-26.

Regarding claim 2, see the rejection of claim 1 above. It recites similar limitations as claim 2 hence it is similarly analyzed and rejected.

Regarding claim 3 De Toni provides for inspection cylinder is a transparent cylinder (Fig.5 element 10 col.4 lines 49-51) , said illuminating means are placed inside said cylinder (Fig.5 element 3 col.5 lines 4-10) and said camera is placed outside said transparent cylinder for inspecting a printed sheet in transparency (Fig.5 see camera 5 col.5 lines 4-10).

Regarding claim 4 Kanzaki teaches a second sheet inspection unit comprising including a second inspection cylinder for transporting a printed sheet during inspection (Fig.2 see inspection roll 24) with a second illumination means (Fig.2 see projector 6) for illuminating said printed sheet and a second camera for inspecting a first illuminated side of the printed sheet (Fig.2 see photo-detector 7 inspection roll 24, also see page 8 lines 6-17). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a second sheet inspection unit comprising including a second inspection cylinder for transporting a printed sheet during inspection with a second illumination means for illuminating said printed sheet and a second camera for inspecting a first illuminated side of the printed sheet, in order in order to provide a high speed

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operation by employing such a sheet feeding mechanism . See page 7 lines 24-26.

Regarding claim 5 Kanzaki teaches a second inspection unit is placed downstream of the first inspection unit and wherein said second inspection cylinder is in direct contact with said first inspection cylinder (Fig.2, see inspection roll 24, which is placed downstream of the first inspection unit 23, also page 8 lines 6-17). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a second inspection unit is placed downstream of the first inspection unit and wherein said second inspection cylinder is in direct contact with said first inspection cylinder in order in order to provide a high speed operation by employing such a sheet feeding mechanism. See page 7 lines 24-26.

Regarding claim 6 Kanzaki teaches a third sheet inspection unit including a third inspection cylinder for transporting a printed sheet during inspection with a third illumination means for illuminating said printed sheet and a third camera for inspecting a second illuminated side of the printed sheet. (Fig.2, see inspection roll 25, with a projector 9 and a photo-detector 10, also see page 8 lines 6-17). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a third sheet inspection unit including a third inspection cylinder for transporting a printed sheet during inspection with a third illumination means for

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illuminating said printed sheet and a third camera for inspecting a second illuminated side of the printed sheet, in order in order to provide a high speed operation by employing such a sheet feeding mechanism . See page 7 lines 24-26.

Regarding claim 7 Kanzaki teaches a third inspection unit is placed downstream of the second inspection unit and wherein said third inspection cylinder is in direct contact with said second inspection cylinder. (Fig.2, see inspection roll 25, which is placed downstream of the second inspection unit 24, also page 8 lines 6-17). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a third inspection unit is placed downstream of the second inspection unit and wherein said third inspection cylinder is in direct contact with said second inspection cylinder, in order in order to provide a high speed operation by employing such a sheet feeding mechanism. See page 7 lines 24-26.

Regarding claim 10 and 18 De Toni provides for the inspection cylinder is carrying only one set of grippers, and the diameter of the inspection cylinders cylinder is minimized for minimal transport and inspection time (see Fig.6 gripper 11 and block 12 (corresponds to inspection cylinder), note “the gripping system is made by a holding gripper 11, rotating about a pivotal axis, cooperating with a varyingly movable block 12. The block 12, to work efficiently, is preferably mounted so as to move radially and to have certain circumferential play at the

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same time. Preferably, the end of block 12 which is to come into contact with the banknote sheet has an elastic surface” in col.4 lines 27-35, further note block 12 works efficiently, and moves radially and have a certain circumferential play (has a specific diameter). Also see col.4 lines 45-49, for ensuring that the sheet B, moving at a high speed, which corresponds to minimal inspection time.

regarding claims 11 and 19 ,Kanzaki teaches the transfer and inspection cylinders are arranged in a zigzag manner such that a transport length of a printed sheet on each inspection cylinder, between an input location where a printed sheet is transferred onto the inspection cylinder and an output location where the printed sheet is transferred away from the inspection cylinder is optimized for a given sheet length.(Fig.2 see first inspection roll 23, a second inspection roll 24 and a third inspection roll 25, arrangement (up and down) corresponds to zigzag ,page 8 lines 6-17). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing wherein the transfer and inspection cylinders are arranged in a zigzag manner such that a transport length of a printed sheet on each inspection cylinder, between an input location where a printed sheet is transferred onto the inspection cylinder and an output location where the printed sheet is transferred away from the inspection cylinder is optimized for a given sheet length, in order to provide a high speed operation by employing such a sheet feeding mechanism . See page 7 lines 24-26.

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Regarding claims 12 and 20 De Toni provides for, wherein the transport length of the printed sheet on the inspection cylinder is slightly greater than the length of the printed sheet to be inspected (col.4 lines 22-25, see “A cylindrical body 10, transversally rotating into the inspecting system, has a sufficient length for a banknote sheet B to be placed over it”).

Regarding claim 13, Kanzaki teaches a marking unit placed downstream of the output transfer cylinder for marking defective sheets (Fig.2 see discharge section 21 page 9 lines 21-25). It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a marking unit placed downstream of the output transfer cylinder for marking defective sheets, in order to provide a high speed operation by employing such a sheet feeding mechanism. See page 7 lines 24-26.

regarding claims 14 and 21 Kanzaki teaches a linear camera that takes successive linear images of the printed sheet being inspected and which is synchronized with the sheet transport on the associated inspection cylinder (Fig.2 see inspection roll 23, inspection roll 24 and inspection roll 25 with photo-detectors (chare-coupled device or CCD) 4, 7 and 10 respectively for taking an image form the flat sheet, when flat sheet is passing through about one half of the upper surface of the first-stage inspection roll, and similarly for the second and third stages, this corresponds to synchronization. Also note “ When passing through about one half of the upper surface of the first-stage inspection roll, the

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upper surface of the flat sheet is checked by the reflected light, followed by the lower surface thereof being checked similarly when passing through the second-stage inspection roll (24). After that, the sheet is checked by the transmitted light while passing through the third-stage inspection roll (25)". In page 9 lines 8-15 of Kanzaki. It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of Kanzaki, providing a linear camera that takes successive linear images of the printed sheet being inspected and which is synchronized with the sheet transport on the associated inspection cylinder, in order to provide a high speed operation by employing such a sheet feeding mechanism. See page 7 lines 24-26.

Regarding claim 15 De Toni provides each inspection cylinder comprises an encoder (Fig.4A see filter 22 for regulating light intensity col.5 lines 27-30) for synchronizing operation of the associated linear camera (Fig. 4A col.5 lines 20-44, see "When, on the other hand, the target B intercepts the light beam at the focal point F (FIG. 4A), a local light diffusion is determined which is correctly beam by the camera 5". Examiner interprets that filter 22 causes the camera 5 not to bloom by creating a cone of shade S downstream of the focal point F (Fig.4B), further causes camera to bloom because the target B (banknote sheet) intercepts the light beam at the focal point F (Fig.4 A), this arrangement is synchronizing the operation of the camera.

Regarding claim 16 De Toni provides for an inspection process for printed matter in the form of printed sheets, such as securities, notes, banknotes,

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passports and other similar document(Fig.5 see cylindrical body 10, col.4 lines 20-26),, wherein the process comprises the following steps: successive printed sheets to be inspected are transferred from a feeder into a first inspection unit in which a first inspection by transparency is carried out, the printed sheets being transported in said first inspection unit by a first inspection cylinder(Fig.5 element 10 col.4 lines 22-25).

De Toni does not provide for once the first inspection is terminated, the printed sheets are transferred to a second inspection unit in which a second inspection of a first side of the printed sheets is carried out, the printed sheets being transported in said second inspection unit by a second inspection cylinder; once the second inspection is terminated, the printed sheets are transferred to a third inspection unit in which a third inspection of a second side of the printed sheets is carried out, the printed sheets being transported in said third inspection unit by a third inspection cylinder; once the third inspection is terminated, the printed sheets are transferred in a marking unit and are marked as defective if the result of one of the inspection shows a defect; and once marking has been performed, the printed sheets are transported in a delivery unit and sorted in delivery piles depending on whether or not the printed sheet are marked as being defective, wherein transfer of the printed sheets from the first inspection unit to the second inspection unit, and from the second inspection unit to the third inspection unit, is made directly from said first inspection cylinder to said second

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inspection cylinder, respectively from said second inspection cylinder to said third inspection cylinder.

Kanzaki teaches the above limitations, Kanzaki teaches a device for checking the quality of sheets (seen in Fig. 2) comprising a first inspection device 23, a second inspection device 24 and a third inspection device 25, the first inspection device for checking the front side of the sheet (page 8, lines 6-8) by means of detection device 2, the second inspection device for checking the rear side of the sheet (page 8, lines 9-11) by means of detection device 5 and the third detection device having a transparent casing (page 8, lines 11-15) and having a light source within (page 8, lines 13-17) for detection by transmission (page 8, end of second paragraph), further Kanzaki teaches a marking unit 17 for marking defective sheets (page 7 lines 9-13, see marking unit 17), then the printed sheets are transported in a delivery unit and sorted in delivery piles depending on whether or not the printed sheet are marked as being defective (Fig.2 see discharge section 21 page 9 lines 21-25), further Kanzaki teaches the transfer of the printed sheets from first inspection unit (Fig.2 element 23)to the second inspection unit (Fig.2 element 24) and to the third inspection unit (Fig.2 element 25) is made directly from first inspection cylinder 23 to the second inspection cylinder 24 and from the second inspection cylinder 24 to the third inspection cylinder 25 (see Fig.2 and page 8 lines 6-17).

It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni by the teaching of

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Kanzaki, providing once the first inspection is terminated, the printed sheets are transferred to a second inspection unit in which a second inspection of a first side of the printed sheets is carried out, the printed sheets being transported in said second inspection unit by a second inspection cylinder; once the second inspection is terminated, the printed sheets are transferred to a third inspection unit in which a third inspection of a second side of the printed sheets is carried out, the printed sheets being transported in said third inspection unit by a third inspection cylinder; once the third inspection is terminated, the printed sheets are transferred in a marking unit and are marked as defective if the result of one of the inspection shows a defect; and once marking has been performed, the printed sheets are transported in a delivery unit and sorted in delivery piles depending on whether or not the printed sheet are marked as being defective, wherein transfer of the printed sheets from the first inspection unit to the second inspection unit, and from the second inspection unit to the third inspection unit, is made directly from said first inspection cylinder to said second inspection cylinder, respectively from said second inspection cylinder to said third inspection cylinder, in order to provide a high speed operation by employing such a sheet feeding mechanism . See page 7 lines 24-26.

Claims 8-9 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over De Toni et al. (US 7,423,738) in view of JP 61-175552(Kanzaki Paper Co.), and further in view of Armanini et al.(Us 7,185,749).

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Regarding claims 8-9 and 17 De Toni as modified by Kanzaki teaches second and third inspection unit (Fig.2, see second inspection roll 24 and a third inspection roll 25, in page 8 lines 6-17 of Kanzaki). De Toni as modified by Kanzaki does not teach at least one non-visible feature inspection unit for detecting IR, UV or magnetic properties on the printed sheets. Armanini teaches the above limitations (col.2 lines 35-40).

It would have obvious to one ordinary skill in the art at time the invention was made to modify the system and method of De Toni as modified by Kanzaki, by using Armanin teaching of non visible feature in order to provide authenticity and fitness of currency bill. See col.2 lines 35-40.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALI BAYAT whose telephone number is (571)272-7444. The examiner can normally be reached on M-F 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ali Bayat/
Examiner, Art Unit 2624
3/24/2010